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Docket No. NEC PF-2727

Submitted with Amendment B Under Rule 116**SUBSTITUTE SPECIFICATION****METHOD OF PROCESSING A NANOTUBE  
USING A SELECTIVE SOLID STATE REACTION**OK to  
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WA  
2/4/05**BACKGROUND OF THE INVENTION**

The present invention relates to a method of processing a nanotube, and  
10 more particularly to a method of processing a nanotube, which is suitable for cutting  
the nanotube and for forming a top of the nanotube.

A single-walled carbon nanotube has an extremely fine structure of  
nanometer order. Properties of the single-walled carbon nanotube have been on the  
investigation. The research and developments of the single-walled carbon nanotube  
15 for application have been active. The single-walled carbon nanotube comprises a  
single layer of graphite hexagonal network. An electron structure largely varies  
depending upon a diameter of the tube and a chiral angle, for which reason the  
electrical conductivity of the carbon nanotube varies between a conductivity of a  
metal and a conductivity of a semiconductor, and further the carbon nanotube  
20 exhibits a property similar to one-dimensional electric conduction.

The carbon nanotube may be applied to a field emitter. This field emitter  
has been known and is disclosed in (1) W.A. de Heer, A. Chatelain,  
and D. Ugarte, Science 270, 1179 (1995); (2) A.G. Rinzler, J.H. Hafner, P. Nikolaev,  
L. Lou, S.G. Kim, D. Tomanek, P. Nordlander, D.T. Colbert, and R.E. Smalley,  
25 Science, 269, 1550 (1995); (3) P.G. Collins and A. Zettl, Appl. Phys. Lett., 69, 1969